

REMARKS

Claims 14-31 are all the claims pending in the application. By way of this Amendment, claim 19 was canceled, claims 14, 15, 18, 22, 23 and 26-31 were amended and new claims 32-34 were added.

The amended claims are believed to overcome the §112(second paragraph) rejection and the prior art rejections, as discussed in greater detail below.

The present invention relates to a method for producing an optical transmission cable, a tubular machine for producing such an optical transmission cable, as well as a system for producing an optical transmission cable.

The present invention concerns a particularly complex type cables, i.e. an optical fiber tube is twisted about a central strengthening member. According to the prior art a planetary machine was used. In contrast, the invention enables this type of complex cable to be produced using a tubular machine, said machine having a plurality of reels located inside the tubular machine wherein a greasing tank and a guiding device are provided between said plurality of reels and an end of said tubular machine. Figure 2 of the present invention shows a production line for a cable according to the prior art, using a tubular machine, whereas figure 3 shows a cable production line according to the invention, using a tubular machine of the invention. The difference between figure 2 and figure 3 is that, according to the invention, the central strengthening member is firstly unwound from a reel located in the tubular machine, for example reel B8, in order to then pass into a greasing tank BO also located in tubular machine MT in order to exit, greased, at the downstream end of tubular machine MT. Providing the greasing

tank at the downstream end of the tubular machine considerably reduces the path of travel of the greased strengthening member (i.e., reel B8 and the greasing tank BO are very close to each other).

Horska (US 5,542,020) relates to a stranded fiber tube fiber optic cable 10 which includes a central support member 14 and at least one lengthwise extending plastic buffer tube 16 surrounding the central support member in conjunction with a plastic filler member 17. At least one optical fiber 20 is positioned in a loose-buffered relationship within each of the buffer tubes 16. The fiber optic cable 10 may also include a protective plastic jacket 22 surrounding the buffer tubes 16. As disclosed in column 5, lines 24-28, the buffer tubes and the protective jacket are typically plastic. In addition, in column 14, lines 44-51, a number of stranding methods is given, for example a tubular strander.

Hulak (US 3,512,611) relates to a device for lubricating the stranding core in a fast stranding machine. This US patent relates to a steel wire as stranding core and aluminum wires as cover layer (see column 1, lines 32-33). In addition, in column 1, lines 45-50, a method of lubricating the stranding core is disclosed, wherein the stranding core is passed through a lubricant containing vessel which is arranged at the corresponding end of the stranding rotor. Such a method is regarded as being disadvantageous.

Independent claims 14, 18 and 22 have been amended to recite that the central strength member, the at least one tube containing the optical fibers and the peripheral strength members are respectively unwound from reels disposed in the tubular machine, as discussed above. The prior art does not teach or suggest this aspect of the invention. For example, Fig. 11 of Horska

shows that the central strength member is unwound from supply reel 42, which is separate from the strander 44. Thus, Horska is similar to the admitted prior art arrangement discussed above and illustrated in Fig. 2 of the application.

Hulak is less pertinent than Horska. Indeed, Hulak is not even directed to an optical fiber cable with a central strength member around with a buffer tube and peripheral strength members are wound, as required by each of the claims of the subject application. Also, the Examiner is directed to the sole figure of Hulak which shows the core being supplied from a reel located upstream of the winding device. Accordingly, it is submitted that independent claims 14, 18 and 22 patentably distinguish over the prior art.

The dependent claims are patentable for the reasons discussed above, and based on the limitations contained therein. For example, the prior art does not teach or suggest the features recited in claims 15 (wherein said central strengthening member passes through a greasing tank situated in said tubular machine, and then exits at an end of said tubular machine); 16 (the optical transmission cable is an aerial cable); 17 (the cable is a ground or phase cable); 20 and 21 (wherein all of said reels have the same size whereby said tubular machine maintains a constant diameter); claim 23 (wherein all of said reels have the same size whereby said tubular machine maintains a constant diameter wherein a greasing tank and a guiding device are provided between said reels and an end of said tubular machine, arranged whereby a strengthening element unwinding from a reel closest to said greasing tank passes through said greasing tank before exiting at an end of the tubular machine); 24 (wherein the two peripheral layers are provided using two tubular machines arranged one after the other); 25 (wherein the two

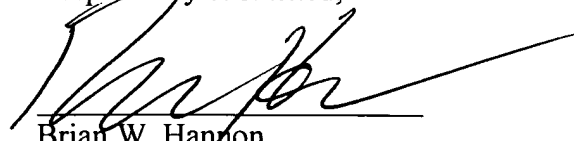
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peripheral layers are obtained using two separate steps employing two tubular machines); 26 (wherein the inner peripheral layer is obtained using the tubular machine and said outer peripheral layer is obtained using a planetary machine, the tubular machine and planetary machine being arranged one after the other); 27 (wherein the said inner peripheral layer is produced during a first step using the tubular machine and said outer peripheral layer is produced during a second step separate from said first step, using a planetary machine); 28-31 (wherein said two machines rotate in mutually opposite directions); and 32-34 (wherein the strengthening members are made of metal).

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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